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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/784,882	02/24/2004	Mitsushige Suzuki	056203.53286US	9944

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EXAMINER	
ALSOMIRI, ISAM A	
ART UNIT	**PAPER NUMBER**
3662	

DATE MAILED: 05/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/784,882	SUZUKI ET AL.	
	Examiner	Art Unit	
	Isam Alsomiri	3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *24 February 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *15 and 16* is/are allowed.

6)☒ Claim(s) *1-14 and 17-19* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *24 February 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *022404 082604*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Brief description of the invention: The disclosure describes a millimeter-wave radar including a radome which covers the base, the base includes all the circuitry (transmit/receive antenna, etc.). The claims are directed in particular to the use of a radar absorbing layers, which are located on the sides of the radome, covering the sides of the circuitry to achieve higher dielectric constant from the sides and less from the front.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-2,4-5, 9, 11-12, 18-19 are provisionally rejected under the judicially created doctrine of double patenting over claims 2, 4, 7, 14, and 18 of copending Application No. 10/390,596. This is a provisional double patenting rejection since the conflicting claims have not yet been patented.

The subject matter claimed in the instant application is fully disclosed in the referenced copending application and would be covered by any patent granted on that copending application since the referenced copending application and the instant application are claiming common subject matter, the claims rejected as being anticipaed by the copending claims as follows:

Present Claims	Co-pending Claims
1, 2, 12	4
4, 5	2
11	14
9	7
18, 19	18

Furthermore, there is no apparent reason why applicant would be prevented from presenting claims corresponding to those of the instant application in the other copending application. See *In re Schneller*, 397 F.2d 350, 158 USPQ 210 (CCPA 1968). See also MPEP § 804.

Specification

The disclosure is objected to because of the following informalities: on page 4 of the specification line 26 the abbreviation "ABS" is not clear, it should be spelled out completely at least once in the specification since it is also claimed.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 8 and 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear what is meant by the limitation "ABS" in the claims.

The claims are also rejected under 112, first paragraph because the disclosure fails to describe or give examples of the abbreviation.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 6, 9, and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by Kenichi JP2001127523.

Referring to claims 1, 12, Kenichi disclose in figures 1-7 a millimeter-wave radar comprising: an antenna base 9 having a transmission/reception antenna; a housing

(not shown but implicit) fixing the antenna base; and at least a radome or a radar cover enclosing the antenna base; wherein the radome or the radar cover is provided with a radio wave absorbing layer 14.

Referring to claim 2, Kenichi discloses the radio wave absorbing layer is provided to a side surface of the radome or the radar cover (see figure 7).

Referring to claim 3, Kenichi teaches the radio wave absorbing layer has its performance adjusted according to its position with respect to the transmission/reception antenna as in figure 5 or figure 6.

Referring to claims 4, 6, it's inherent and necessary that the radio wave absorbing layer has a higher dielectric Constance and loss than that of a material of the radome or the radar cover.

Referring to claim 9, Kenichi discloses in figures 7 the radio wave absorbing layer is formed of only a layer having a predetermined angle to a surface of the transmission/reception antenna or of a combination of the layer having the predetermined angle and a layer having a predetermined angle to a normal of the surface of the transmission/reception antenna.

Claim 5 is rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kenichi JP2001127523.

Referring to claim 5, it's inherent the radio wave absorbing layer is a magnetic loss layer. However, even if it is not inherent, official notice is taking that having an absorbing layer that is a magnetic loss layer is well known and It would have been obvious to include for circuitry protection.

Claims 7-8 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kenichi JP2001127523 in view of Honma US006496138B1.

Referring to claims 7-8, 13-14, it's inherent and necessary that the radome and the radar cover use a material with a dielectric constant such that it will permit waves through without interference, therefore, it's inherent to have that part of the radome with 3 or even less dielectric Constance. Even if it is not inherent, Honma teaches a radar system where the front portion 31 (lens, which has a dielectric Constance less than 3) of the radome is made of a material that will permit wave without interference). It would have been obvious to use material with dielectric constance of 3 or less to permit wave passage. Furthermore, official notice is taken that it is well known to have the lens made of polycarbonate for the high-impact strength.

Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenichi JP2001127523 in view of Boyer et al. US 5,275,880.

Referring to claim 10, Kenichi does not teach a conductor layer on the outside of the absorbing layer. Boyer teaches a radiation absorber which include a conductor layer 18 which located on the outside of the absorbing layer (see col. 1 lines 51-64). It would have been obvious to modify the Kenichi's system to include the conductor layer to reflect the microwaves which are not fully absorbed back into the absorbing layer. Boyer is silent about the conductive layer being a mesh. However, conductor layer

being a mesh is well known in the art, conductor layers made of wires are known (mesh). It would have been obvious to have the conductor layer as a mesh or a wire layer to reflect the microwaves which are not fully absorbed back into the absorbing layer. Furthermore, It would have been obvious to use a mesh of less than ¼ of wavelength depending on the desired resistance of the radar absorber.

Referring to claim 11, it's inherent that Kenichi teaches the absorbing layer consisting of carbon nanotube, carbon microcoil, shungite carbon, carbon black, exfoliated graphite, and carbon fiber. However, even if Kenichi doesn't teach the claimed absorbing layer consisting of carbon nanotube, carbon microcoil, shungite carbon, carbon black, exfoliated graphite, and carbon fiber, these materials are well known and are widely used to absorb radiation. Boyer teaches using graphite, carbon (see col. 2 lines 7-10). It would have been obvious to modify the combination to have the absorbing material made of graphite for its good radiation absorption.

Claims 18-19 are rejected under 35 U.S.C. 103(a) as being obvious over Kenichi JP2001127523 in view of Schmidt et al. US 6,111,551.

Referring to claims 18-19, Kenichi discloses in figure 7 a millimeter wave radar comprising: an antenna base 9 having a transmission-reception antenna; a housing (not shown but implicit) for fixing said antenna base; and a radome 10 covering a front side of said antenna base; wherein an electromagnetic wave absorbing layer 14 is provided on the inside surface of said radome. Kenichi is silent about injection molding a radome main body, and injection molding an electromagnetic wave absorbing layer on the inside

surface of said radome main body to thereby form the radome. However, injection molding is well known; Schmidt teaches injection molding the housing and radar absorbent (see col. 1 lines 4-45). It would have been obvious to modify Kenichi's system to use the injection molding method to produce the claimed radome in a single operation.

Allowable Subject Matter

Claims 15 and 16 are allowed.

Claim 17 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, paragraph, set forth in this Office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Isam Alsomiri whose telephone number is 571-272-6970. The examiner can normally be reached on Monday-Friday 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Isam Alsomiri

May 10, 2005

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